REMARKS

The claims in the application remain 1-32.

Favorable reconsideration of the application as amended is respectfully requested.

The claims have been amended to eliminate the objections and rejections under 35 U.S.C. §112, second paragraph, set forth in paragraphs 5-14 of the Office Action. In this regard, it is believed the Examiner intended to refer to Claim 29 in paragraph 12 of the Office Action. In any event, Claim 29 has been amended, this amendment finding explicit support at the bottom of page 11 of the specification. Furthermore, all amendments to the claims herein find clear support throughout the present application and drawings. In this regard, recitation of a "server" introduced into independent Claims 1 and 17 can be found, e.g., in the last full paragraph on page 5 of the specification.

Accordingly, the only outstanding issue is the art rejection of the claims.

More particularly, Claims 1, 3, 8, 9, 11-15, 17, 29, 30 and 32 have been rejected under 35 U.S.C. §102 as being anticipated by U.S. Pat. No. 6,292,687 to Lowell et al in paragraphs 16-22 of the Final Office Action while Claims 1-10,16-28 and 31 have been rejected under 35 U.S.C. §102 as being anticipated by U.S. Pat. No. 5,078,134 to Heilman et al in paragraphs 23-34 of the Final Office Action. However, it is respectfully submitted the present invention as recited in all pending claims herein is neither anticipated nor rendered obvious by the applied art, for the following reasons (reference will be made to preferred embodiments illustrated in the drawings of the present application).

As pointed out in the preceding amendment, the present invention explicitly improves detecting of a cardiac anomaly, e.g., fibrillation, in a patient in a most expeditious manner to provide treatment as soon as possible. The invention provides for continuous monitoring of cardiac parameters of a patient and activating an alarm should a danger threshold or limit be exceeded by one of the monitored parameters. In one embodiment, activating, e.g., of a defibrillator worn by the patient, can immediately take place, even before emergency medical personnel arrive, saving valuable time of critical importance in a cardiac emergency.

In particular, the inventive device comprises, e.g., a thoracic band having the sensor 12 (with or without pre-processing measured data from a patient) and worn by the patient. Data concerning the cardiac state of the patient, i.e., the signal from the sensor 12, is transmitted to a server and then evaluated based upon an alarm management concept. If a critical situation should be detected by an evaluation unit 13, e.g., a central unit, control room, etc., then an alarm signal is generated by the central unit, control room, etc. which is remote from the patient. Hence, life-saving activation of a defibrillator worn by the patient, can take place remotely from the central unit or control room in expeditious fashion.

These and other advantages are explicitly attained by the inventive method recited in independent Claim 1 directed to a method for detecting an anomaly in cardiac activity of a patient by providing at least one sensor 12 for determining at least one parameter characterizing the cardiac activity of the patient, transmitting the at least one parameter to a server, automatically evaluating this parameter with respect to at least one parameter that characterizes an anomaly in the cardiac activity of the patient, and

generating an alarm signal if a limiting value for the anomaly-characterizing parameter is exceeded, with the evaluating and/or alarm-generating steps being carried out remotely to the patient.

The inventive device for detecting the cardiac anomaly as recited in independent Claim 17 is directed to at least one sensor 12 arranged to acquire at least one signal characterizing cardiac activity of the patient, at least one server to which this signal is sent, at least one signal evaluation unit 13 for evaluating this signal and a signal transmitter 15 for generating an alarm signal. More specifically, the signal evaluation unit 13 is provided with an analyzer for determining if a limiting value characterizing cardiac anomaly is exceeded by the signal from the sensor 12. Moreover, the signal evaluation unit 13 and/or transmitter 15 are/is positioned remotely from the patient.

Locating the means for providing a signal, i.e., the signal evaluation unit 13 and/or transmitter 15, remotely from the patient provides the advantage that a patient merely wears or carries the sensor(s) 12 with just a device 16 for transmitting the thus-sensed signal(s) to a receiving unit 17 (Fig. 3), e.g., a server, eliminating need for a patient to additionally wear or carry the signal evaluation unit 13 and transmitter 15. This provides much more comfort for the patient and thereby encourages the patient to continuously wear or carry the sensor 12. An alarm will then be immediately generated should a danger limit be exceeded by the evaluated signal from the sensor 12 on the patient, providing for medical intervention as quickly as possible.

The features of the presently claimed invention, together with the accompanying advantages attained thereby, are neither disclosed nor suggested by the applied art for the following reasons.

As pointed out in the preceding amendment, Lowell et al disclose a medical emergency response and locating system, particularly for cardiac arrest including a heart dysfunction reader 26 and sensor 27 evaluating the heart dysfunction reader 26 worn or attached to a patient, together with a personal alarm 30, loop processor unit 28 and locator broadcast initiator 31 also attached to or worn by a patient (Fig. 1 and column 4, line 62-column 5, line 17).

Accordingly, Lowell et al fail to teach or suggest the invention as recited in Claim 1 wherein the evaluating and/or alarm-generating steps are carried out remotely to the patient, and Claim 17 where the evaluation unit 13 and/or signal transmitter 15 are/is positioned remotely from the patient. It is noted Lowell et al have not been applied against dependent claims directed to spatial separation of sensing and evaluating steps (Claim 5) or sensor 12 and evaluation unit 13 (Claim 22). It is also noted Lowell et al. fail to disclose analysis of the state of fibrillation.

As also pointed out in the preceding amendment, Heilman et al disclose a portable device for sensing cardiac function and automatically delivering electrical therapy. In particular, a patient-worn harness or vest is disclosed which incorporates sensing electrodes for monitoring heart condition, a microprocessor, and electrodes for applying electrical pulses to the chest wall of the patient in response to signals received from the microprocessor. Thus Heilman et al fail to disclose conducting evaluating and/or alarm-generating steps remote to a patient or positioning an evaluation unit 13 and/or signal transmitter 15 remotely from a patient. Heilman et al disclose nothing more than the prior art wearable vest described, e.g., in the second paragraph on page 2 of the background portion in the present application.

Concerning the comments raised in paragraph 35 of the Final Office Action, namely that Fig. 1 of Lowell et al show an alarm 30 remote from the sensor on the patient 27 (i.e., separate units), with Fig. 4 of Heilman et al also showing "separate" sensing electrodes 22 and pulse generator 24 (although mounted on the same patient), attention is again respectfully called to independent Claims 1 and 17 herein which have both been amended to recite transmitting the cardiac activity signal from the sensor 12 on the patient to at least one server. Both Lowell et al and Heilman et al fail to teach or suggest this feature which, in combination with the other claimed features herein, provides the explicit improvements set forth *supra* over prior art monitoring such as disclosed in Lowell et al and Heilman et al.

Accordingly, neither Lowell et al nor Heilman et al teach or suggest the present invention as recited in any pending claim herein. The remaining art of record has not been applied against the claims and will not be commented upon further at this time.

Therefore, in view of the forgoing amendment and accompanying remarks, it is respectfully submitted all claims pending herein are in condition for allowance. Please contact the undersigned attorney should there be any questions. Transmittal papers for filing a Request for Continued Examination (RCE) and a petition for an automatic two month extension of time under 37 C.F.R. §1.136(a) are enclosed in triplicate, together with the requisite petition and RCE fees.

Early favorable action is earnestly solicited.

Respectfully submitted,

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